DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tachihara (US2002/0004021) in view of Woods (6,033,793). Tachihara discloses substantially all of the claimed limitations including, among other things, a warm-up apparatus utilizing combustion gas 10 from a burner distributed to a catalytic reactor 20 (see also at least fig. 4A, 4B). While Tachihara mentions air/fuel ratios, Tachihara does not specifically recite lean ratios. Woods teaches fuel reforming system for a fuel cell system wherein a lean air-fuel ratio is preferred in order to ensure the elimination of all

non-reacted fuel and generate additional thermal energy. Accordingly, it would have been obvious to one having ordinary skill in the art at the time of invention to incorporate the lean air-fuel ratio taught by Woods into the invention disclosed by Kawasumi, so as to ensure the elimination of all non-reacted fuel and generate additional thermal energy.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tachihara (US2002/0004021) in view of Woods (6,033,793). The combination of Tachihara and Woods teaches substantially all of the claimed limitations, but does not specifically recite adjusting the exhaust gas being directed to and heating the catalyst. Nevertheless, providing adjustability is old and well known for providing enhanced control. Enhanced control enhances the ability to compensate for varying conditions, which in turn provides for better results. Accordingly, it would have been obvious to one having ordinary skill in the art at the time of invention to incorporate the adjustable control of the heating into the device taught by the above combination, so as to provide for better results. "When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that is was obvious under § 103." *KSR Int'l Co. v. Teleflexlnc.,* 127 S.Ct. 1727, 1742, 82 USPQ2d 1385, 1396 (2007).

Allowable Subject Matter

5. Claims 14, 15, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicants' arguments with regard to the rejected claims discussed during the telephonic interview of May 27, 2008 have been considered and deemed persuasive.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alfred Basichas whose telephone number is 571 272

4871. The examiner can normally be reached on Monday through Friday during regular business hours.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center telephone number is 571 272 3700.

June 3, 2008

/Alfred Basichas/
Primary Examiner, Art Unit 3749